REMARKS/ARGUMENTS

Claims 21-29 are active in this application.

As set forth in the claims, the invention is directed to a method of treating organic pollution on a glass substrate including a photocatalytic titanium dioxide layer, by treating the substrate with an electrical treatment or a flame treatment to remove at least silicone pollution from the substrate. As discussed in the specification on page 2, 2nd paragraph, the formation of organic pollution on the surface of the glass substrate can degrade its performance and can also reduce the quality of visibility through the glass substrate.

The inventors have found that by treating the glass substrate with electrical or flame methods the organic pollution on the substrate can be reduced and/or eliminated such that the substrate can be regenerated to their state prior to the formation of the pollutant on the substrate (see page 2, last paragraph). Moreover, with textured substrates (see Claim 27), the surface morphology can also be retained, even in instances with fine features (see page 2, last paragraph).

It is respectfully submitted that the prior art cited in the Official Action fail to teach or suggest the method as claimed herein.

In the Official Action, the previous rejections in view of the disclosures of Boire, Nakada with either Morgan or Dunoyer have been withdrawn. In place of these rejections, two new obviousness rejections have been raised citing the same Boire and Nakada publications with the newly cited Fujitsu and RD439069A (also with the previously cited Morgan). However, contrary to the rejections laid out in the Action, these new rejections are no better at establishing a case of obviousness than the previous, now withdrawn, rejections. Indeed, the combined teachings of the cited art still fails to describe treating organic pollution

on a glass substrate because the primary references of Boire and Nakada still provide no reason to additionally clean a self-cleaning glass and JP '441 and RD439069A do not help in this regard.

As explained previously, Boire describes a titanium dioxide containing laminate but does not teach removing silicone pollution. Nakada teaches applying a silicone sealant between glass panels and to protect the glass from the silicone oils, the glass panel is covered with a photocatalytic coating, such as titanium dioxide (see §8 of Nakada). As stated in the "Constitution" section of the document provided, Nakada also appears to describe employing a photocatalytic.

Of course, the Office admits that neither Boire nor Nakada teach removing silicone as required in the claims but for this Fuijitsu and RD43069A are cited (see page 4 and page 6 of the Official Action). Thus, the rejections are based on the presumption that one would have modified the processes of the combined teachings of Boire and Nakada to use the methodology in Fuijitsu and RD43069A. This presumption fails for two reasons: (1) Boire and Nakada would not have been so modified and (2) Fuijitsu and RD43069A do not actually teach what it is alleged that they teach.

As has been discussed previously, Boire and Nakada teach glazings that are also self cleaning and therefore the solution each provides is photocatalytic titanium dioxide to achieve a clean substrate. Therefore, according to Boire and Nakada there is no need to clean a self-cleaning glazing of pollutants and as such teach away from what is claimed (see MPEP § 2141.02 (prior art must be considered in its entirety, including disclosures that teach away from the claims) and MPEP § 2143.01 (proposed modification cannot change the principle of operation of a reference)). Moreover, neither Boire nor Nakada discuss the build-up of organic pollutants that occur even when titanium dioxide is included in glass. Indeed, as has

been discussed in the specification, the inventors have discovered that contrary to the prior knowledge, e.g., from Boire and Nakada, the presence of photocatalysis with, e.g., TiO_2, is not sufficient to clean the glazings with silicone oils. Therefore, this prior art, without the knowledge imparted by the inventors, would not have suggested to one that silicone pollution would be problematic even in TiO_2 containing glazings and that further treatment was necessary.

First it is noted that the citation provided for Fujitsu on page 4 of the Office Action is not the "Abstract" but the Title:

TITLE: Removing silicone resin film on substrate - by exposing film to oxygen plasma while applying heat, and dissolving film with water soln. of hydrofluoric acid NoAbstract Dwg 1/2

According to this statement, Fujitsu discloses wet etching of substrates (which is not defined in the cited Title) in which silicone resin is converted into SiO_2 by oxygen plasma. SiO_2 is then etched by hydrofluoridric acid (HF). HF dissolves SiO_2, and therefore dissolves glass (which is composed of SiO_2). The dissolution of glass by HF is often used to perform chemical analysis of glass and because of its high reactivity with glass, it is known in the art that HF is never stored in glass containers.

Therefore one would never have used Fujitsu method for cleaning glass substrates and as such provides an additional reason why one would not have used the method of Fujitsu in the methods of Boire and Nakada. Furthermore, Fujitsu leads one away from using oxygen plasma, as this treatment alone is not sufficient to remove silicone resin : it only produces SiO_2 film, which needs another step (HF etching).

Therefore, it should be apparent that the claimed method would not have been obvious in view of Boire and Nakada and Fujitsu. Withdrawal of the rejection is requested.

To the second rejection citing RD439069A combined with Boire, Nakada and Morgan.

RD439069A is concerned with metal substrates, and not glass substrates, particularly not glass substrates covered with TiO_2 coatings. Therefore, one would not have simply used a metal treatment method on glass methods as taught in Boire and Nakada contrary to the statements on page 7 of the Action. On this basis alone, the rejection is not tenable.

Further, RD439069A uses very high temperatures (see "Advantage"). According to this document, high temperatures are indeed needed to remove silicone. Thus, giving yet another reason why one not have used the RD439069A method for glass substrates, which do not resist to high temperatures (problems of thermal shock, softening of glass above 500°C).

As discussed previously, Morgan does teach a flame treatment but teach treatment or cleaning the glass prior to the deposition of the thin layer of glass and do not suggest the treatment of a glass substrate after deposition of a photocatalytic TiO_2 layer. Therefore, presuming that the Morgan's teachings would have been combined with RD439069A, Boire, and Nakada as alleged by the Office, one would have treated a layer prior to depositing the layers of Boire or Nakada, which is fundamentally different from what is claimed in this application.

In view of the above discussion, Applicants request that this rejection be withdrawn as well.

A Notice of Allowance for all pending claims is requested.

Respectfully submitted,

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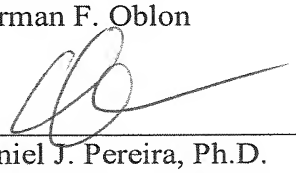

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